REC'D	0	7	JUN	2005
WIPO		_		PCT

PATENT COOPERATION TREATY From the INTERNATIONAL SEARCHING AUTHORITY **PCT** To: Bjerkéns Patentbyrå KB WRITTEN OPINION OF THE Östermalsgatan 58 INTERNATIONAL SEARCHING AUTHORITY 114 50 Stockholm Sverige (PCT Rule 43bis.1) Date of mailing 03 -06- 2005 (day/month/year) FOR FURTHER ACTION Applicant's or agent's file reference See paragraph 2 below 56034 PCT sb/bl Priority date (day/month/year) International filing date (day/month/year) International application No. 12.03.2004 03.03.2005 PCT/SE2005/000317 International Patent Classification (IPC) or both national classification and IPC F28F3/08, F28F13/08 // F28F13/06 Alfa Laval Corporate AB et al 1. This opinion contains indications relating to the following items: Basis of the opinion Box No. I Box No. II Priority Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability Lack of unity of invention Box No. IV Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial Box No. V applicability; citations and explanations supporting such statement Certain documents cited Box No. VI Box No. VII Certain defects in the international application Box No. VIII Certain observations on the international application 2. FURTHER ACTION If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered. If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later. For further opinions, see Form PCT/ISA/220. For further details, see notes to Form PCT/ISA/220. Authorized officer Name and mailing address of the ISA/SE Patent- och registreringsverket Annette Riedel / JA A

Telephone No. +46 8 782 25 00

Form PCT/ISA/237 (cover sheet) (January 2004)

STOCKHOLM

Facsimile No. +46 8 667 72 88

Box 5055

6-102 42

International application No.

PCT/SE2005/000317

Box No. I	Basis of this opinion						
which it w	rd to the language, this opinions filed, unless otherwise ind	icated under this	s stem.		*		1
Тъ	is opinion has been established, which is the langua	ed on the basis of ge of a translatio	f a translatio n furnished	n from the origi for the purposes	nal language into of international	search (under	Rules 12.3
and	d 23.1(b)).						ł
2. With regar	rd to any nucleotide and/or and/or and/or any ention, this opinion has been	amino acid sequ n established on	ence disclos	sed in the interna	ational application	on and necessar	y to the
a. type of	f material						
	a sequence listing						
	table(s) related to the sequ	ence listing					
b. format	of material					•	-
	in written format						
	in computer readable form	ì			. •		į
c, time o	of filing/furnishing						
	contained in the internation	nal application	as filed.		•		
	filed together with the int	ernational applic	ation in com	puter readable f	orm.		
	furnished subsequently to	this Authority f	or the purpo	ses of search.	•		
3.	In addition, in the case that filed or furnished, the requirement that in the application as file	more than one vered statements the	ersion or cop nat the inform to beyond the	oy of a sequence nation in the sub application as fi	listing and/or ta sequent or addit iled, as appropri	ble relating the ional copies is ate, were furnis	reto has been identical to shed.
	,						
4. Addition	nal comments:						
	•						
				•			
					•		
ŀ				•			•
			•				
				•			
						•	,
	•						

International application No.
PCT/SE2005/000317

Box No. V	Reasoned statement u applicability; citations	nder Rule 43 and explan	3 <i>bis.</i> 1(a)(i) with regard to novelty, inve- ations supporting such statement	ative step or industrial
1. Statemen	nt			
Nove	lty (N)	Claims	1-26	YES
		Claims		NO
Inver	ntive step (IS)	Claims	1-26	YES'
111,000	may step (as)	Claims		NO
Indus	strial applicability (IA)	Claims	1-26	YES
	, , (= -,	Claims		NO
	\ .			•

2. Citations and explanations:

The invention relates to a plate heat exchanger with tapering interspaces, as well as to a suitable heat exchanger plate.

Documents cited in the International Search Report:

D1: GB2054817 A

D2: SE415928 B

D3: SE514326B C2

D4: JP6241672 A

D5: JP7260385 A

D6: SE470339 B

D7: WO8502670 A1

D8: GB1357282 A

D9: US4781248 A

D10:US4749032 A

D11:GB1468514 A

The cited documents represent the general state of the art only. The invention defined in claims 1-26 is not disclosed by any of these documents, nor does the cited prior art give any indication that would lead a person skilled in the art to the claimed heat exchanger and plate. Therefore, the claimed invention is not obvious to a person skilled in the art.

Hence, the invention defined in claims 1-26 is novel and considered to involve an inventive step. The industrial applicability of the invention is evident.

REC'D	07	JUN	2005
WIPO			PCT

PATENT COOPI	ERATION TREATY			
From the INTERNATIONAL SEARCHING AUTHORITY	•			
To:	PCT			
Bjerkéns Patentbyrå KB	10-			
Östermalsgatan 58	WRITTEN OPINION OF THE			
114 50 Stockholm	INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43 <i>bis.</i> 1)			
Sverige				
	(FC1 Km0 4303.1)			
	Date of mailing 0 3 -06- 2005			
Applicant's or agent's file reference	FOR FURTHER ACTION			
56034 PCT sb/bl	See paragraph 2 below			
International application No. International filing of	late (day/month/year) Priority date (day/month/year)			
PCT/SE2005/000317 03.03.2005	140 00 0004			
International Patent Classification (IPC) or both national class	sification and IPC			
F28F3/08, F28F13/08 // F28F13/0	06			
Applicant Alfa Laval Corporate AB et al				
Alla Havar corporate the				
1. This opinion contains indications relating to the following	g items:			
Box No. I Basis of the opinion				
Box No. II Priority	•			
	regard to novelty, inventive step and industrial applicability			
Box No. IV Lack of unity of invention				
Box No. V Reasoned statement under Rule 436 applicability; citations and explana	bis.1(a)(i) with regard to novelty, inventive step or industrial attions supporting such statement			
Box No. VI Certain documents cited	4			
Box No. VII Certain defects in the international	application			
Box No. VIII Certain observations on the interna	tional application			
International Preliminary Examining Authority (IFEA Authority other than this one to be IPEA and the chosen	made, this opinion will be considered to be a written opinion of the considered that this does not apply where the applicant chooses an IPEA has notified the International Bureau under Rule 66.1 bis(b) that the will not be so considered.			
of Form PCT/ISA/220 or before the expiration of 22 mc	written opinion of the IPEA, the applicant is invited to submit to the amendments, before the expiration of 3 months from the date of mailing on the priority date, whichever expires later.			
For further opinions, see Form PCT/ISA/220.				
3. For further details, see notes to Form PCT/ISA/220.				
	Authorized officer			
Name and mailing address of the ISA/SE Patent- och registreringsverket				
Box 5055	Annette Riedel / JA A			
S-102 42 STOCKHOLM	0 502 25 00			

Telephone No. +46 8 782 25 00

Form PCT/ISA/237 (cover sheet) (January 2004)

Facsimile No. +46 8 667 72 88

International application No.

PCT/SE2005/000317

Bo	k No. I	Basis of this opi	nion					
1.	which it was	s filed, unless othe	rwise indicate	ns been established on d under this item.				ľ
	This	opinion has been	established on	the basis of a transla a translation furnishe	tion from the orig	inal language s of internatio	into the followinal search (und	ng language, er Rules 12.3
	and	23.1(b)).	ie language or	8 transiation farman	ou tor the purpose		•	
2.	With regard	i to any nucleotide rention, this opinio	and/or amin n has been est	o acid sequence discablished on the basis	losed in the interr of:	ational applic	ation and neces	sary to the
	a. type of		,					
		a sequence listing						
		table(s) related to	the sequence	listing				
	b. format o	f material						
		in written format	:	•]
İ		in computer read	able form					
ļ	c, time of	filing/furnishing						•
	П		international s	application as filed.				
	一	filed together wi	th the internat	ional application in c	omputer readable	form.	•	
	旨			Authority for the pur				
	ليا							
3				than one version or etatements that the infe does not go beyond t				
		that in the approxi			••• •••			
l								•
4	. Additiona	al comments:						
							٠.	•
				•				
١								
						•		
1				•	•			
1								
١		•						
1	•				•			
١								
							•	
		٠						
Į								
1	•							

International application No.
PCT/SE2005/000317

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement 1. Statement 1-26 Novelty (N) Claims NO Claims YES 1-26 Inventive step (IS) Claims NO Claims YES 1-26 Claims Industrial applicability (IA) NO Claims

2. Citations and explanations:

The invention relates to a plate heat exchanger with tapering interspaces, as well as to a suitable heat exchanger plate.

Documents cited in the International Search Report:

D1: GB2054817 A

D2: SE415928 B

D3: SE514326B C2

D4: JP6241672 A

D5: JP7260385 A

D6: SE470339 B

D7: WO8502670 A1

D8: GB1357282 A

D9: US4781248 A

D10:US4749032 A

D11:GB1468514 A

The cited documents represent the general state of the art only. The invention defined in claims 1-26 is not disclosed by any of these documents, nor does the cited prior art give any indication that would lead a person skilled in the art to the claimed heat exchanger and plate. Therefore, the claimed invention is not obvious to a person skilled in the art.

Hence, the invention defined in claims 1-26 is novel and considered to involve an inventive step. The industrial applicability of the invention is evident.